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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,279	10/29/2003	Joseph D. Rainville	GP-303951	6502

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EXAMINER

HODGE, ROBERT W

ART UNIT PAPER NUMBER

1745

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/696,279	RAINVILLE, JOSEPH D.	
	Examiner	Art Unit	
	Robert Hodge	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-14 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of group I claims 1-14 in the reply filed on 10/26/06 is acknowledged. The traversal is on the ground(s) that the Examiner stated that the method could be used for any fuel cell system with any compressor and not just a turbomachine compressor. This is not found persuasive because in actuality claim 15 does not positively recite a fuel cell module only the intended use of the compressor therefore the method does not even require that the compressor be for any specific system and can be used for a number of different systems that require a compressor such as compressing air into cylinders such as for scuba diving or even for fire fighter's respirator systems.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by

Applicant's admitted prior art hereinafter AAPA.

As seen in figure 1, AAPA teaches a fuel cell system 10 comprising a fuel cell module 14 including a cathode input responsive to a charge airflow and a cathode exhaust 26, a compressor

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16 that can be a turbomachine compressor such as a centrifugal, radial, axial or mixed flow compressor (paragraph [0006]), a surge detection device 22 upstream of the compressor receiving the airflow before it is sent to the compressor, a controller 28 responsive to the signal from the surge protection device, a motor 18 that drives the compressor and is controlled by the controller and back pressure valve 24 positioned in the cathode exhaust that is also controlled by the controller, wherein the entire system as described above is on a vehicle (paragraph [0004]) (see also paragraphs [0004]-[0007]). As best understood by the examiner the surge protection device as recited in claims 1 and 5 only measures the air flow before it reaches the compressor and therefore the mass flow meter of AAPA reads on the claims as so recited.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of U.S. Patent No. 6,984,464 hereinafter Margiott.

AAPA teaches everything in the above 102 rejection.

AAPA does not teach a bypass valve in the cathode exhaust.

Margiott teaches a fuel cell system that has a bypass valve (72) secured in fluid communication with the cathode exhaust (44) (see figure 1 and column 4, line 44 – column 7, line 50).

At the time of the invention it would have been obvious to one having ordinary skill in the art to include a bypass valve in AAPA as taught by Margiott in order to properly recycle the oxidant that has already passed through the fuel cell module to best utilize the unreacted oxidant present in the cathode exhaust and utilize a stream that had already been heated by the fuel cell module which would require less preheating of the oxidant at the inlet.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

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with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3 and 6-9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17 of copending Application No. 10/765,815. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application fully encompass the scope of the claims in copending Application No. 10/765,815. The only difference is the claims of copending Application No. 10/765,815 further limit the functionality of the controller, no other structure is provided.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### *Allowable Subject Matter*

Claims 10-14 are allowed.

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Examiner notes that if the limitations of claim 4 were added to claim 1, then claim 2, which depends on claim 1, would be a substantially duplicate claim to claim 10.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art made of record does not teach or fairly suggest a fuel cell system comprising a bi-

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directional mass flow meter. There is also no motivation for a person of ordinary skill in the art to substitute a bi-directional mass flow meter into the closest prior art, which is AAPA. Doing so would completely alter the operation of the system and would require a different controller configuration to operate said bi-directional mass flow meter.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Article entitled "Surge Control," available 2002-01-10, [online], [retrieved on 2006-04-10] Retrieved from the Dresser-Rand website URL:<http://www.dresser-rand.com/controls/scO498.htm>, which teaches the necessity for controlling surges in systems with compressors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Trainer Susy Tsang-Foster can be reached on (571) 272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RWH

  
PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER